

Amendments to the Claim:

1. (previously presented) A method for optimizing compression efficiency comprising:

receiving at a router-type device a data stream in which multiple streams of associated protocol data units are interposed;

filtering protocol-specific header and control information of a protocol data unit (PDU) to determine compressibility of the contents of said protocol data unit including determining if a given protocol data unit from the data stream is associated with a previously filtered protocol data unit by tracking previously filtered protocol data units from the data stream and information regarding the compression applied to previously filtered protocol data units;

based on the result of said filtering, selecting the state of data link compression for said protocol data unit to optimize compression efficiency such that if the given protocol data unit is associated with a previously filtered protocol data unit, the data link compression that was applied to the previously filtered protocol data unit is selected; and

associating the selected state of data link compression with the given protocol data unit to control a compression process adapted to compress contents of protocol data units.

2. (Original) The method as claimed in claim 1, further including compressing the contents of the protocol data unit as a function of the state of data link compression.

3. (Original) The method as claimed in claim 2, wherein compressing

the contents of the protocol data unit includes applying an indication in or with the compressed protocol data unit to indicate whether the contents of the protocol data unit have been compressed.

4. (Original) The method as claimed in claim 3, further including decompressing the compressed contents of the protocol data unit.

5. (Original) The method as claimed in claim 4, wherein, based on the indication of whether the contents of the protocol data unit have been compressed, decompressing the compressed contents of the protocol data unit is performed in a manner previously negotiated.

6. (Original) The method as claimed in claim 1, further including accessing a table having entries with specific media types deemed compression limited.

7. (Original) The method as claimed in claim 1, wherein filtering includes associating individual protocol data units to a specific media type.

8. Cancelled.

9. (previously presented) The method as claimed in claim 1, wherein

determining includes accessing a table including tracking information about previously filtered protocol data units.

10. (Original) The method as claimed in claim 1, wherein selecting the state of the data link compression includes disabling the data link compression if the compressibility of the contents of the protocol data unit is determined to be low.

11. (Original) The method as claimed in claim 1, wherein selecting the state of the data link compression includes enabling the data link compression if the compressibility of the contents of the protocol data unit is determined to be high.

12. (Original) The method as claimed in claim 1, further including initializing a table used by the data link compression with data patterns expected to be contained in the content of said protocol data unit.

13. (currently amended) An apparatus for optimizing compression efficiency comprising:

a protocol data unit (PDU) filter configured to determine compressibility of the contents of a given protocol data unit from a data stream in which multiple streams of associated protocol data units are interposed by determining if the given protocol data unit is associated with a previously filtered protocol data unit from the data stream;

a tracking unit operatively associated with the PDU filter configured to track previously filtered protocol data units to enable the PDU filter to determine if the

given protocol data unit is associated with a previously filtered protocol data unit; and

a selector coupled to the output of the filter and configured (i) to select the state of data link compression for the given protocol data unit to optimize compression efficiency such that if the given protocol data unit is associated with a previously filtered protocol data unit, the data link compression that was applied to the previously filtered protocol data unit is selected,[[;]] and (ii) to associate the selected state of data link compression with the given protocol data unit to control a compressor adapted to compress contents of protocol data units.

14. (previously presented) The apparatus as claimed in claim 13, further including a compressor configured to compress the contents of the protocol data unit responsive to the state of data link compression.

15. (previously presented) The apparatus as claimed in claim 14, wherein the compressor is configured to include an indication in or with the compressed protocol data unit to indicate whether the contents of the protocol data unit have been compressed.

16. (previously presented) The apparatus as claimed in claim 15, further including a decompressor configured to decompress the compressed contents of the protocol data unit.

17. (previously presented) The apparatus as claimed in claim 16, wherein, the decompressor is configured to decompress the contents of the protocol data unit in a manner previously negotiated with the compressor based on the indication of whether the contents of the protocol data unit have been compressed.

18. (previously presented) The apparatus according to claim 13, wherein:

the filter is configured to determine compressibility of the contents of the given protocol data unit by determining the type of data of the given protocol data unit where the given protocol data unit is not associated with a previously filtered protocol data unit;

the selector is configured to select the state of data link compression for the given protocol data unit based on the determined type of data of the given protocol data unit if the given protocol data unit is not associated with a previously filtered protocol data unit; and

the selector includes a table configured to store entries with specific media types deemed compression limited.

19. (previously presented) The apparatus as claimed in claim 13, wherein the filter is configured to associate individual protocol data units to a specific media type.

20. Cancelled.

21. (previously presented) The apparatus as claimed in claim 13, wherein the filter further includes a table configured to store information about previously filtered protocol data units.

22. (previously presented) The apparatus as claimed in claim 13, wherein the selector is configured to disable the compressor if the compressibility of the contents of the protocol data unit is determined to be low.

23. (previously presented) The apparatus as claimed in claim 13, wherein the selector is configured to enable the compressor if the compressibility of the contents of the protocol data unit is determined to be high.

24. (previously presented) The apparatus as claimed in claim 13, further including an initialization unit configured to initialize a table used by the compressor with data patterns expected to be contained in the content of said protocol data unit.

25.-27. Cancelled.

28. (previously presented) A computer-readable medium having stored thereon sequences of instructions, the sequences of instructions including instructions, when executed by a processor, configured to cause the processor to perform:

filtering protocol-specific header and control information of a protocol data unit from a data stream in which multiple streams of associated protocol data units are interposed to determine compressibility of the contents of said protocol data unit including:

determining if a given protocol data unit is associated with a previously filtered protocol data unit from the data stream by tracking previously filtered protocol data units and information regarding the compression applied to previously filtered protocol data units; and

determining the type of data of the given protocol data unit where the given protocol data unit is not associated with a previously filtered protocol data unit;

selecting the state of data link compression for said protocol data unit based on the results of said filtering to optimize compression efficiency such that:

if the given protocol data unit is associated with a previously filtered protocol data unit, the data link compression that was applied to the previously filtered protocol data unit is selected; and

otherwise the state of data link compression is selected based on the determined type of data of the given protocol data unit; and

associating the selected state of data link compression with the protocol data unit to control a compression process adapted to compress contents of protocol data units.

29.-31. Cancelled.

32. (previously presented) The method of claim 1 wherein:
the filtering protocol-specific header and control information of a protocol
data unit (PDU) to determine compressibility of the contents of said protocol data
unit includes determining the type of data of the given protocol data unit where the
given protocol data unit is not associated with a previously filtered protocol data
unit; and

the selecting the state of data link compression for said protocol data unit to
optimize compression efficiency is performed such that the state of data link
compression is selected based on the determined type of data of the given protocol
data unit if the given protocol data unit is not associated with a previously filtered
protocol data unit.